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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,343	10/23/2003	Kyoung-Youm Kim	5000-1-477	8522
33942	7590	03/01/2006	EXAMINER	
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			KANG, JULIANA K	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/692,343

Applicant(s)

KIM ET AL.

Examiner

Juliana K. Kang

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7 and 10 is/are rejected.
- 7) ☒ Claim(s) 2,6,8 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. Applicant's communication filed on December 12, 2005 has been carefully studied by the Examiner. The amendments made to the claims require new interpretation of the claims, therefore new rejection(s) is applied to the pending claims. The amendments made to the claims overcome the rejections made under 35 USC 112. The arguments advanced therein, considered together with the amendments made to the claims, are not persuasive. This action is made final.

***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3, 4, 7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurata (U.S. Patent 5,633,962).

Regarding claim 1, Kurata discloses an optical waveguide element having a directional coupler (waveguides shown on the substrate 38) comprising: a first waveguide (32) and second waveguide (34) located adjacent to each other; a first dummy waveguide (extending of the second waveguide 34 that forms a directional coupler 33); a reflector (35) on an end surface of the first dummy waveguide; and a second dummy waveguide (41), wherein optical signals progressing from the second dummy waveguide to the first dummy waveguide attenuate while sequentially passing through the reflector and the second dummy waveguide (see Fig. 1 and column 4 lines 29-47).

Regarding claims 3, 4, 7 and 10, Kurata discloses an input waveguide (39) extending from one end of the first waveguide (32), and enabling optical signals to be input to the direction coupler; an output waveguide (42) extending from other end of the first waveguide; and a light source (36) coupled an end surface of the output waveguide, wherein optical signals ( $\lambda_1$ ) generated from the light source pass through the output waveguide (42) and are output to the input waveguide (39) through first waveguide (see Fig.1).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurata (U.S. Patent 5,633,962) as applied to claims 1, 3 and 4 above, and further in view of Moriya et al (U.S. Patent 5,200,612).

As described above, Kurata discloses the claimed invention except an inclined end surface of the second dummy waveguide. Moriya et al teach using inclined fiber end for coupling the fiber and a photodetector for improved coupling efficiency (see column 4 lines 62-67). Since Kurata's second dummy fiber is coupled to a receiver (37), it would have been obvious to one having ordinary skill in the art at the time the

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invention was made to use an inclined surface for the second dummy optical waveguide of Kurata that couples to the receiver as taught by Moriya et al for optimum coupling efficiency.

### ***Allowable Subject Matter***

5. Claims 2, 6, 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 2, the closest prior art made of record, Kurata, fails to teach the optical signals that input through the input waveguide are coupled to the second waveguide in the directional coupler and output to the output waveguide along with other claimed limitations.

Regarding claim 6, the feature of claim 6 wherein a curved waveguide that extends from an end surface of the second dummy waveguide to accomplish the applicant's invention, in combination with the other claimed features is not disclosed or suggested by Kurata, the closest prior art made of record.

Regarding claims 8 and 9, there is no prior art that teaches or reasonably suggests the claimed coupling structure with all the specific elements with the specific combination as set forth in claims 8 and 9.

### ***Response to Arguments***

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6. Applicant's arguments filed December 13, 2005 have been fully considered but they are not persuasive. Applicant argues that Kurata (U.S. patent 5, 633, 9623)'s directional coupler (40) does not teach the claimed directional coupler structure recited in claim1. The Examiner does not agree with this. As described above, Kurata clearly discloses all the claimed directional coupler structure. The Examiner referred to reference number 40 as a directional coupler during the previous Office action because the original claims were not clear as stated in the previous Office action. Applicant also argues regarding the rejections based on the Kitamura reference on page 8 of the remarks. But it is noted that rest of the arguments are referring to the Kurata reference. It appears that it is a mistake nonetheless the rejection based on the Kitamura reference is persuasive and the rejection(s) based on the Kitamura reference is hereby withdrawn.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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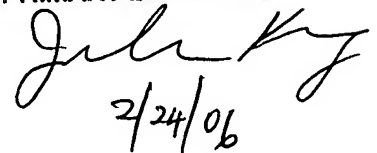
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliana K. Kang whose telephone number is (571) 272-2348. The examiner can normally be reached on Monday through Thursday 8:00 AM-2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**JULIANA KANG**  
**PRIMARY EXAMINER**



2/24/06